



Maintenance and Service Guide

24fh model

27fh model

SUMMARY

This guide provides information about spare parts, removal and replacement of parts, diagnostic tests, problem troubleshooting, and more.

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Product notice

Only trained service personnel familiar with this product should service it. Before performing any maintenance or service, be sure to read "Important Safety Information".

Table of Contents

1	Getting started	1
	Important safety information	1
	Important service information and precautions	1
	RoHS (2002/95/EC) requirements	2
	General descriptions	2
	Firmware updates	2
	Before returning the repaired product to the customer	2
2	Monitor features	3
	Features	3
	Front components	4
	Rear components	5
	Locating the serial number and product number	6
3	Illustrated parts catalog	8
	How to order parts	11
4	Removal and replacement procedures	12
	Preparation for disassembly	12
	RC	12
	Connector repair	17
	VGA P6	17
	HDMI connector P3 (P4)	18
	Function test	19
	Support and troubleshooting	20
	Index	22

1 Getting started

Read this chapter to learn about safety information and where to find additional HP resources.

Important safety information

Carefully read the cautions and notes within this document to minimize the risk of personal injury to service personnel. The cautions and notes are not exhaustive. Proper service methods are important to the safe, reliable operation of equipment. Improper service methods can damage equipment.

The service procedures recommended and described in this service manual provide effective methods of performing service operations. Service engineers should have prior repair knowledge and experience as well as appropriate training for the product before performing service procedures.

- Be sure your working environment is dry and clean and meets all government safety requirements.
- Be sure that other persons are safe while you are servicing the product.
- Do not perform any action that can cause a hazard to the customer or make the product unsafe.
- Use proper safety devices to ensure your personal safety.
- Always use approved tools and test equipment for servicing.
- Never assume the product's power is disconnected from the main power supply. Check that it is disconnected before opening the product's cabinet.
- Modules containing electrical components are sensitive to electrostatic discharge (ESD). Follow ESD safety procedures while handling these parts.
- Some products contain more than one battery. Do not disassemble or expose a battery to high temperatures, such as throwing into fire, or the battery may explode.
- Refer to government requirements for battery recycling or disposal.

This information provides general service information for the monitor. Adherence to the procedures and precautions is essential for proper service.

IMPORTANT: Only trained service personnel who are familiar with this HP product should perform service or maintenance for it. Before performing any service or maintenance, personnel must read the important safety information.

IMPORTANT: You must disconnect the power cord from the power source before opening the monitor to prevent component damage.

Important service information and precautions

- Repair must be performed by professional service technicians in a repair center. End users should not perform these procedures.
- Please note during servicing that the primary side is the high voltage area.
- This monitor meets ROHS requirements. Be sure to use lead-free solder wire when soldering.
- If you must change a capacitor, be sure to match the polarity as printed on the PCB.
- If you must replace a capacitor, make sure the specification and part number match the BOM and location.

- If you must replace a capacitor, insert new parts carefully to avoid a short circuit caused by the near pin.
- Do not get the board wet. Water and moisture can cause a short circuit that causes malfunctions.
- To avoid damage, be sure to use lead-free solder.
- When soldering, work quickly to avoid overheating the circuit board.
- Keep the soldering iron tip clean and well tinned when replacing parts.
- After repair, perform a close inspection of the circuit board to confirm it is in good condition.
- After repair, perform a function test to confirm the power supply is working properly.

ERP Lot5 requirement

1. A professional repairer must have the technical competence to repair electronic displays and comply with the applicable regulations for repairers of electrical equipment in the Member States where the repairer operates. Reference to an official registration system as professional repairer, where such a system exists in the Member States, shall be accepted as proof of compliance.
2. A professional repairer must have insurance that covers liabilities resulting from repairs, regardless of whether required by the Member State.

RoHS (2002/95/EC) requirements

Applied to all countries that require RoHS.

The RoHS (Restriction of Hazardous Substance in Electrical and Electronic Equipment Directive) is a legal requirement by the EU (European Union) for the global electronics industry sold in the EU and other countries. Any electrical and electronics products launched in the market after June 2006 should meet this RoHS requirement. Products launched in the market before June 2006 are not required to be compliant with RoHS parts. If the original parts are not RoHS complaint, the replacement parts can be non-ROHS complaint. If the original parts are RoHS compliant, the replacement parts **MUST** be RoHS complaint.

If product service or maintenance requires replacing parts, confirm the RoHS requirement before replacement.

General descriptions

This manual contains general information. There are two levels of service:

Level 1: Cosmetic/appearance/alignment service

Level 2: Circuit board or standard parts replacement

Firmware updates

Firmware updates for the monitor are available at support.hp.com. If no firmware is posted, the monitor does not need a firmware update.

Before returning the repaired product to the customer

Perform an AC leakage current check on exposed metallic parts to be sure the product is safe to operate without the potential of electrical shock. Do not use a line isolation transformer during this check.

Measurements that are not within specified limits present a possible shock hazard. You must check and repair the product before returning it to the customer.

2 Monitor features

This chapter provides an overview of the monitor's features.

Features

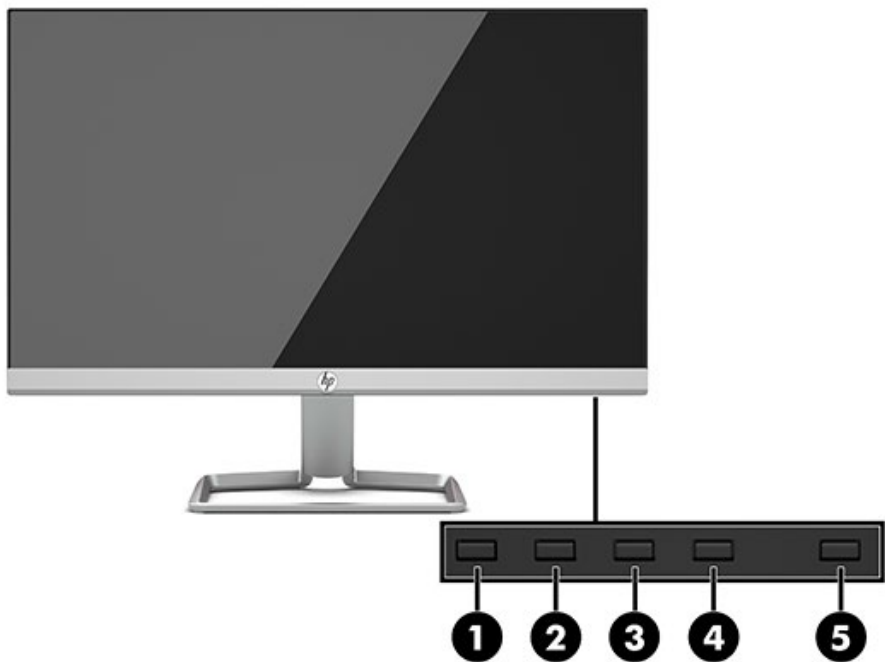
Depending on the model, your monitor might include the following features:

- 54.61 cm (21.5 in) diagonal viewable area with 1920 × 1080 resolution, plus full-screen support for lower resolutions, includes custom scaling for maximum image size while preserving the original aspect ratio
- 60.47 cm (23.8-inch) diagonal viewable screen area with 1920 × 1080 resolution, plus full-screen support for lower resolutions
- 68.6 cm (27-inch) diagonal viewable screen area with 1920 × 1080 resolution, plus full-screen support for lower resolutions
- Anti-glare screen with an LED backlight
- Wide viewing angle to allow viewing from a sitting or standing position, or moving from side to side
- Tilt, swivel, and height-adjustment capability
- High-Definition Multimedia Interface (HDMI), and VGA video inputs
- AMD FreeSync-qualified, providing PC gaming enjoyment with smooth, responsive, tear-free performance whenever a picture changes on the screen
- Four Function buttons under the right side of the front bezel, three that can be reconfigured to quickly access the most commonly used operations
- Plug-and-play capability if supported by the operating system
- Security slot provision on rear of monitor for optional cable lock
- On-Screen Display (OSD) adjustments in several languages for easy setup and screen optimization
- HP Display Center software for adjusting monitor settings and enabling theft deterrence features
- HDCP (High Bandwidth Digital Content Protection) copy protection on all digital inputs
- Energy saver feature to meet requirements for reduced power consumption

NOTE: For safety and regulatory information, refer to the Product Notices provided in your documentation kit. To access the latest user guides or manuals for your product, go to <http://www.hp.com/support> and follow the instructions to find your product. Then select **Manuals**.

Front components

To identify the components on the front of the monitor, use this illustration and table.



<Table 2-1>

Table 2-1: Front components and their descriptions

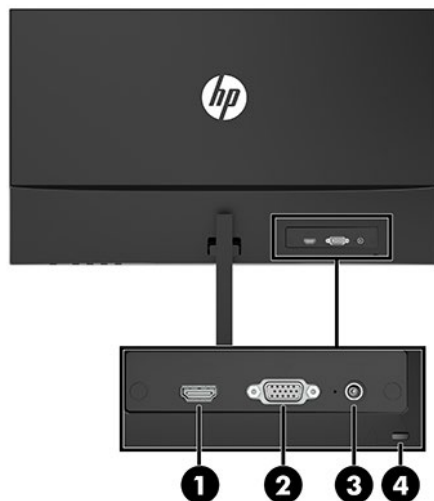
Component		Function
1	Menu / OK	Menu: If the OSD menu is closed, opens the OSD main menu. OK: If the OSD menu is open, selects an item in the OSD menu.
2	Information / Auto-Adjustment / Minus Function button 3—assignable	Information: If the OSD menu is closed and HDMI is the primary video source, opens the Information menu. Auto-Adjustment: If the OSD menu is closed and VGA is the primary video source, activates the auto-adjustment feature to optimize the screen image. Minus: If the OSD menu is open, navigates backward through the OSD menu and decreases adjustment levels.
3	Input / Plus Function button 2—assignable	Input: If the OSD menu is closed, switches to the next video input port (VGA or HDMI). Plus: If the OSD menu is open, navigates forward through the OSD menu and

		increases adjustment levels.
4	Viewing Modes / Exit Function button 1—assignable	Viewing Modes: If the OSD menu is closed, opens the Viewing Modes menu to choose different screen viewing settings. Exit: If the OSD menu is open, saves changes and exits the OSD menu.
5	Power	Turns the monitor on or off.

NOTE: You can reconfigure the Function buttons in the OSD menu to quickly select the most commonly used operations. Press the Menu button to open the OSD, and then select Menu Control. Select Assign buttons, and then select one of the available options for the button you want to assign.

Rear components

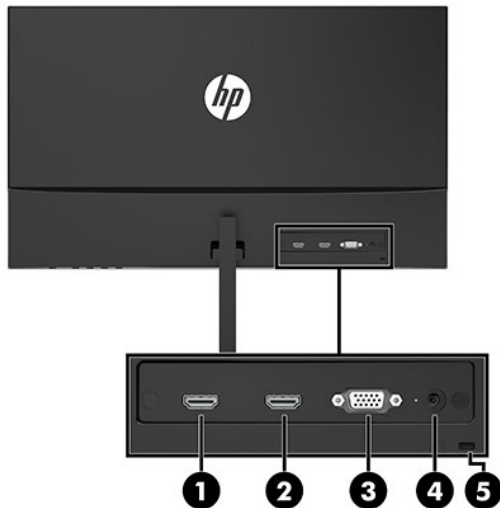
To identify the components on the rear of the monitor, use this illustration and table.



<Table 2-2>

Table 2-3: Rear components and their descriptions

Component	Function
1 HDMI connector	Connects an HDMI cable to the source device.
2 VGA connector	Connects a VGA cable to the source device.
3 Power connector	Connects a power cord.
4 Security cable slot	Connects a security cable to the monitor.



<Table 2-3>

Table 2-3: Rear components and their descriptions

Component	Function
1 HDMI1 connector	Connects an HDMI cable to the source device.
2 HDMI2 connector	Connects an HDMI cable to the source device.
3 VGA connector	Connects a VGA cable to the source device.
4 Power connector	Connects a power cord.
5 Security cable slot	Connects a security cable to the monitor.

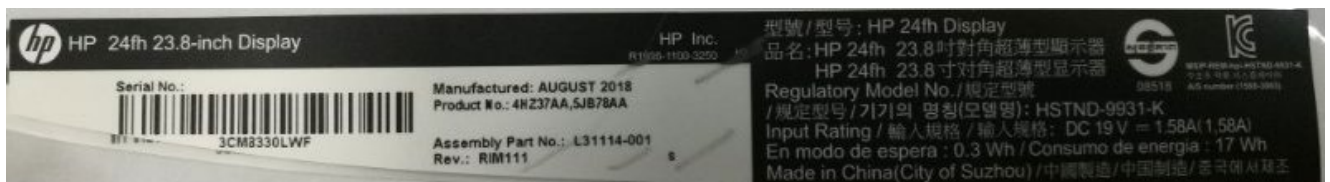
Locating the serial number and product number

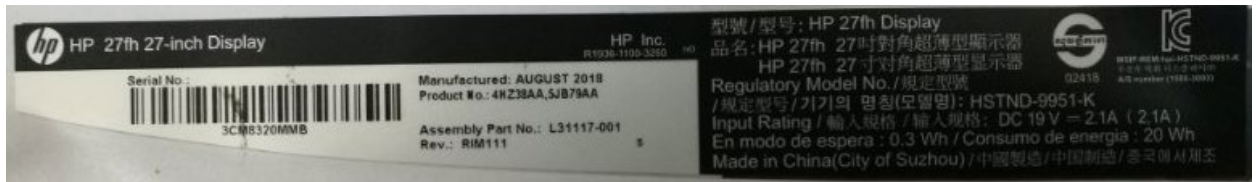
The rating labels on the monitor provide the spare part number, product number, and serial number. You may need these numbers when contacting HP about the monitor model. The rating labels are located on the bottom side of the monitor display head.



For worldwide models:

Rating label





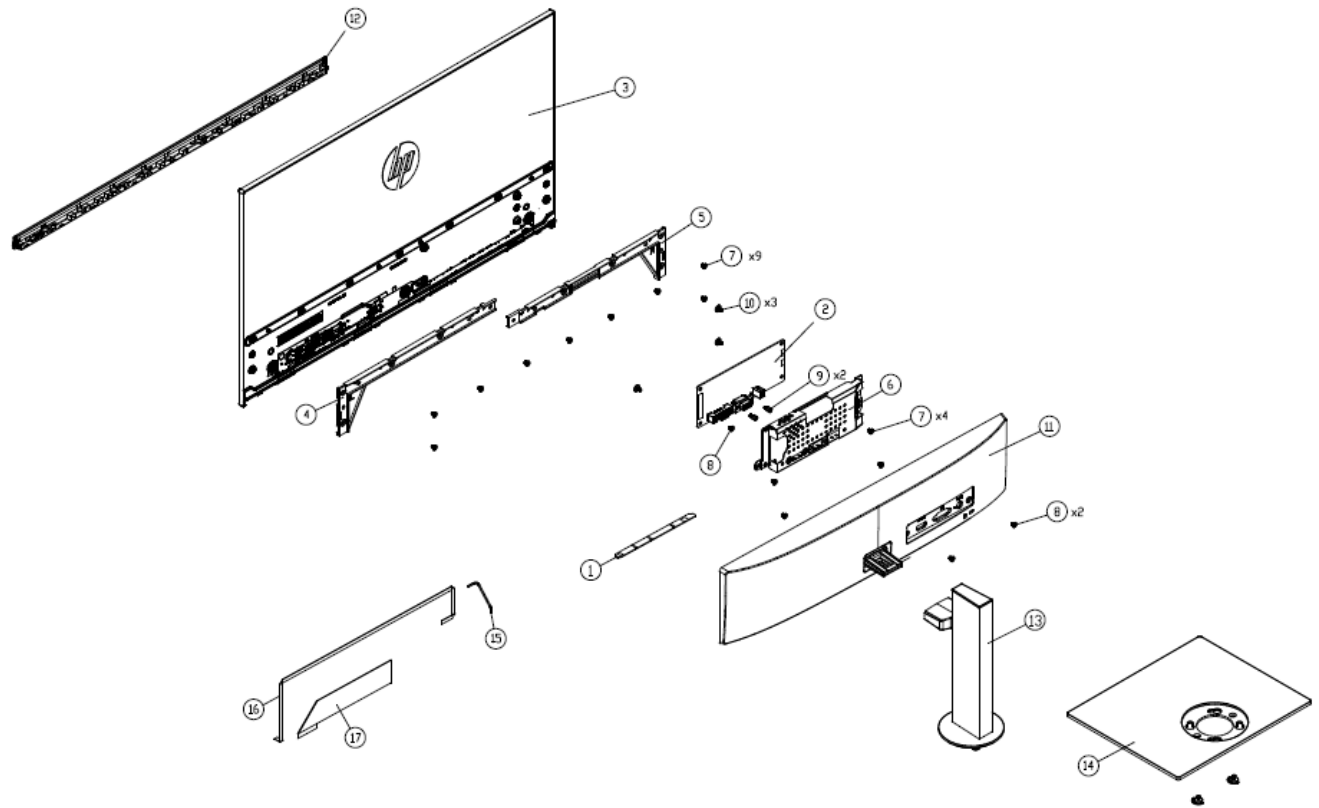
Safety label



3 Illustrated parts catalog

To identify the monitor major components, use this illustration and table.

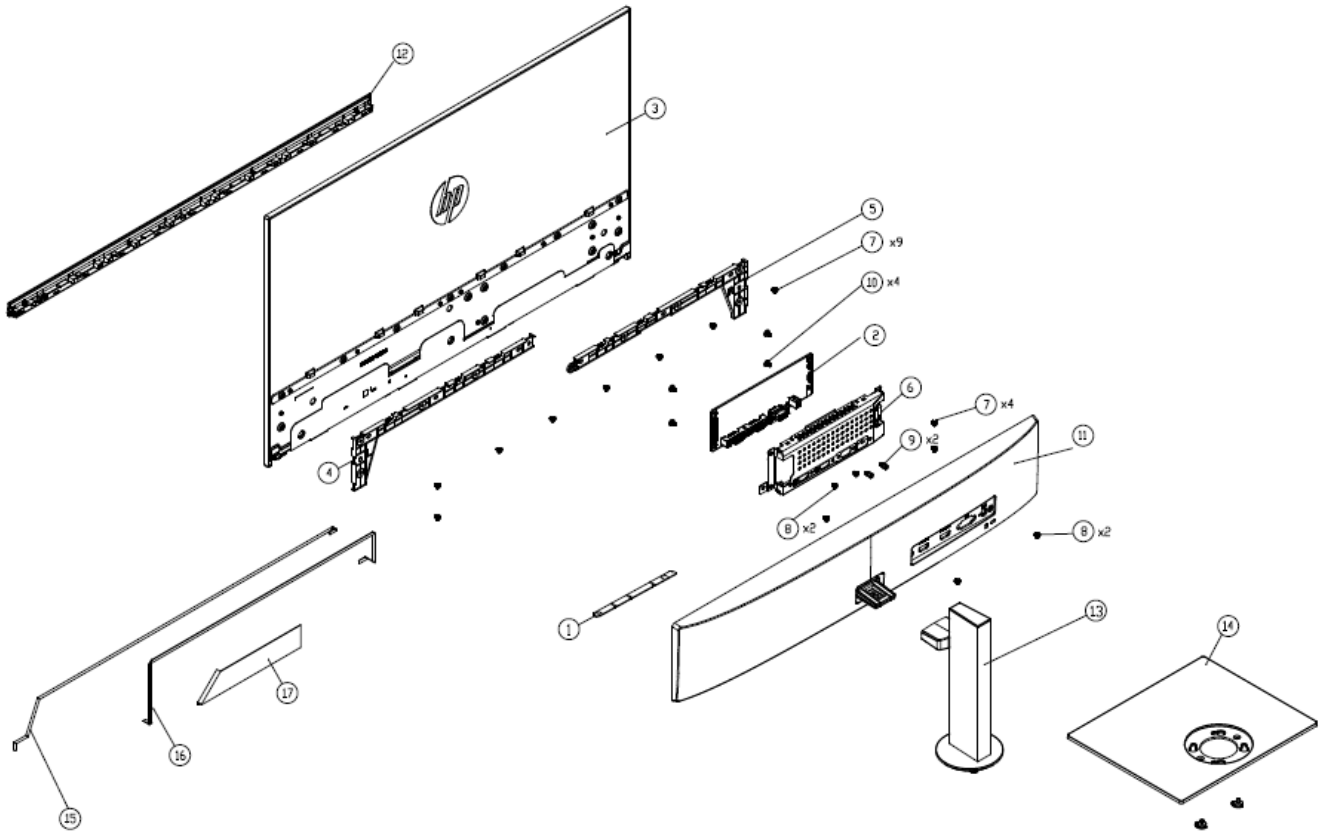
24fh



<Table 3-1>

Item	Description	Qty
1	DISPLAY BD ASS'Y	1
2	MAIN BD ASS'Y HP 24fh	1
3	23.8 ES8.0 LCM HP (black)	1
4	Frame_L(ABS 94-HB/J13417B5)	1
5	Frame_R(ABS 94-HB/J13417B5)	1
6	SHIELDING (1A1H)(ENCORE)	1
7	MAC. SCREW-MI M3.0*4.0L, BLK-Ni	13
8	MAC. SCREW-MI M3.0*6.0L, BLK-ZNNI	3
9	MAC. SCREW-MH #4-40*5.0L,Ni	2
10	MAC. SCREW-MRF M3.0*6.0L,	3
11	REAR COVER(ABS 94-HB/Jack Black ASS'Y	1

12	FRONT DECO(ENCORE2-24FH)ASS'Y	1
13	NECK(AL/Jack Black)(ENCORE2-24fh)ASS'Y	1
14	BASE(ABS 94-HB/Jack Black ASS'Y	1
15	WH KY-1251HS01-06/KY-1021HS-06 #28 95mm	1
16	WH FFC 8P(0.5mm) 490mm	1
17	WH FFC 30P(1.0mm)250mm	1



<Table 3-4>

Item	Description	Qty
1	DISPLAY BD ASS'Y	1
2	Main BD ASS'Y 27fh	1
3	23.8 ES8.0 LCM HP (Black)	1
4	Frame_L(ABS 94-HB/J13417B5)	1
5	Frame_R(ABS 94-HB/J13417B5)	1
6	SHIELDING	1
7	MAC. SCREW-MI M3.0*4.0L, BLK-Ni	13
8	MAC. SCREW-MI M3.0*6.0L, BLK-ZNNI	4
9	MAC. SCREW-MH #4-40*5.0L,Ni	2
10	MAC. SCREW-MRF M3.0*6.0L,	4
11	REAR COVER (ENCORE2-24FH) ASS'Y	1
12	FRONT DECO(ENCORE2-24FH)ASS'Y	1
13	NECK(AL/Jack Black)(ENCORE2-27fh)	1
14	BASE(ABS 94-HB/Jack Black ASS'Y	1
15	WH KY-1251HS01-06/KY-1021HS-06 #28	1
16	WH FFC 8P(0.5mm) 580mm	1

How to order parts

Connectors by manufacturer

- Farnell: [Farnell UK - Electronic Components Distributor](#)
- RS Component: [Capacitors | RS Components \(rs-online.com\)](#)
- Digi-Key Component: [Digi-Key Component United Kingdom](#)

Component description	Location identifier	Component distributor	Distributor part number
DC Power	P1	DigiKey	732-5935-ND
VGA	P6	RS	10090929-S154XLF
HDMI	P3 (P4)	Farnell	51V019S-33WN-BD
		Digikey	483078012

NOTE: The connector may need to be modified to meet functionality, regulatory and safety requirements if it is not an exact match.

You can purchase cables from the HP part store at <https://partsurfer.hp.com/Search.aspx>.

NOTE: HP continually improves and changes product parts. For complete and current information about supported parts for your computer, go to <http://partsurfer.com>, select your country or region, and then follow the on-screen instructions.

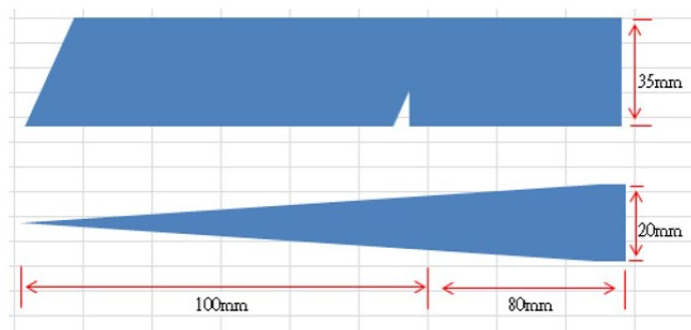
4 Removal and replacement procedures

Adherence to these procedures and precautions is essential for proper service.

Preparation for disassembly

Use this information to properly prepare to disassemble and reassemble the monitor.

- 1) Read the “Important safety information” and “Important service information and precautions” sections in the “Getting started” chapter of this guide.
- 2) Clean the room for disassembly.
- 3) Identify the disassembly area.
- 4) Check the position that the monitors are to be placed along with the number of monitors. Prepare the area for material flow according to the disassembly layout.
- 5) Be sure to have the following equipment and materials:
 - Press fixture
 - Working table
 - Screwdriver
 - Knife
 - Gloves
 - Cleaning cloth
 - ESD protection
 - Scraper bar in the following dimensions:

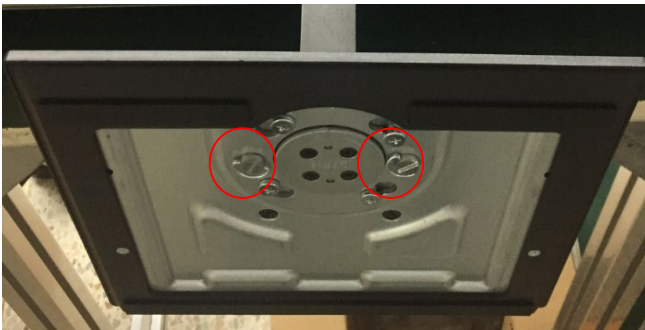


RC

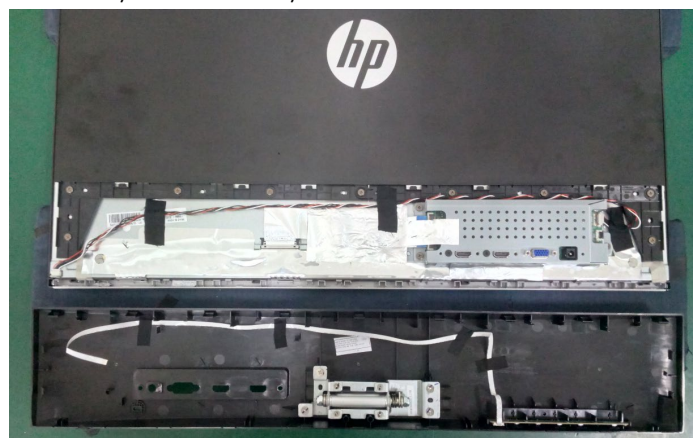
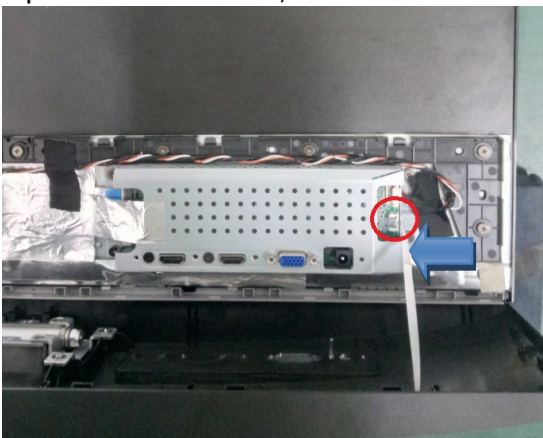
Before removing the RC, follow these steps:

- ▲ Prepare the monitor for disassembly. See Preparation for disassembly on page 13.

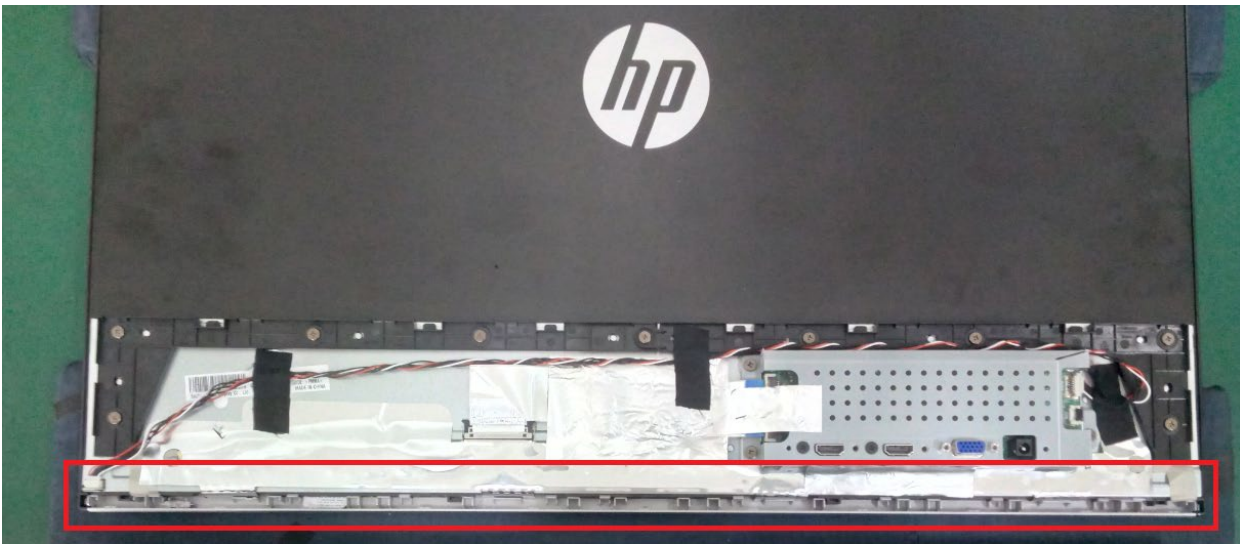
Step 1: Down the base screw, break down the base and neck;
Strip the screws from rear cover so that the rear metal cover can be removed, after be turn back;



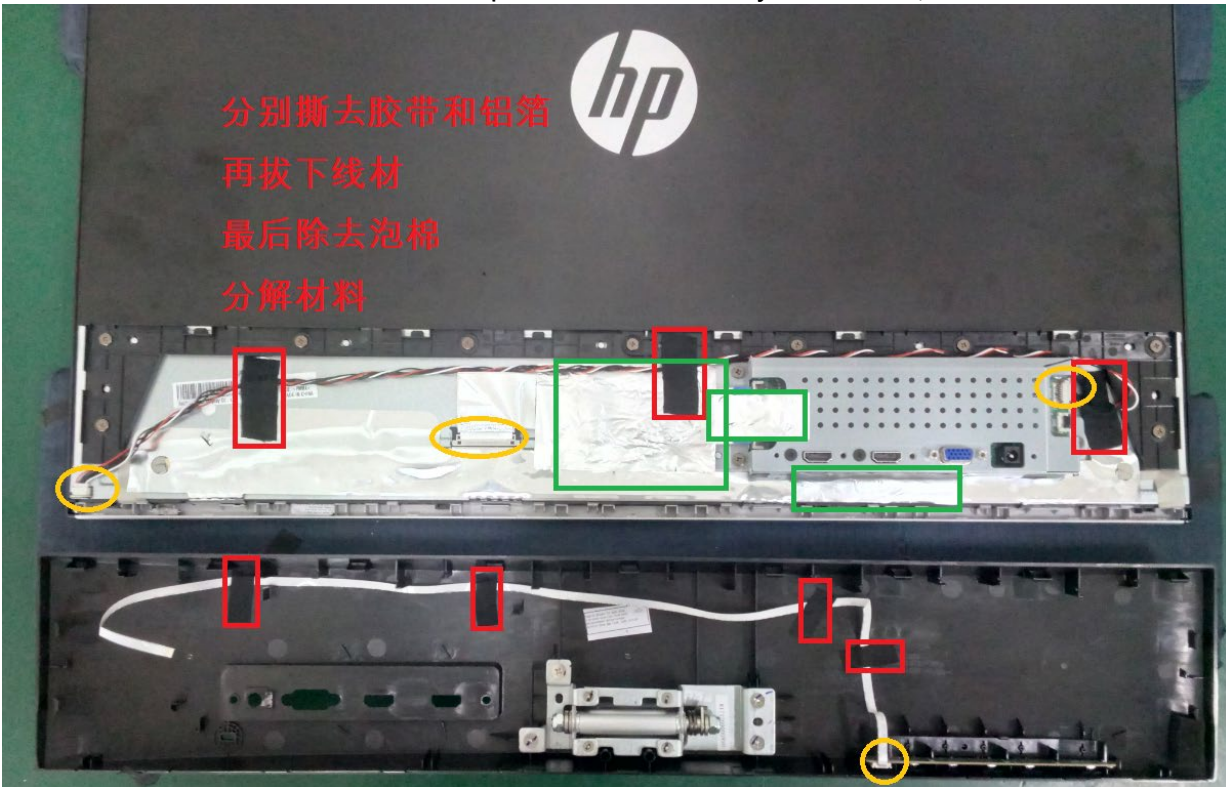
Step 2: Pull out the 8P FFC , so that can take the rear cover out of MNT ; such as bellow;



Step 3: Push up and disassemble the DECO from the panel;



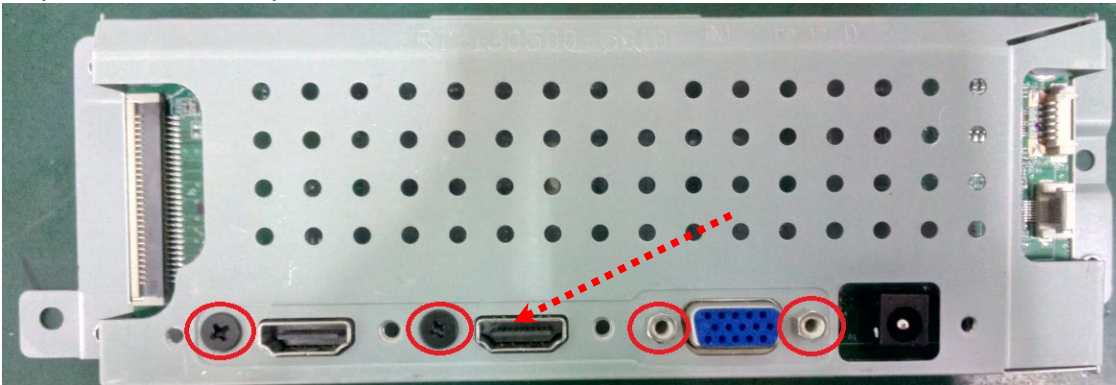
Step 4: To remove the shielding (contain the other material);
 (4.1) Remove the acetate tapes covering the LVDS/ LED FFCs;
 (4.2) Pull out the LVDS/ LED FFCs to separate the base assembly from the unit;



Step 5: Strip the screws *4pcs



Strip the other screws *8pcs from the M/B;

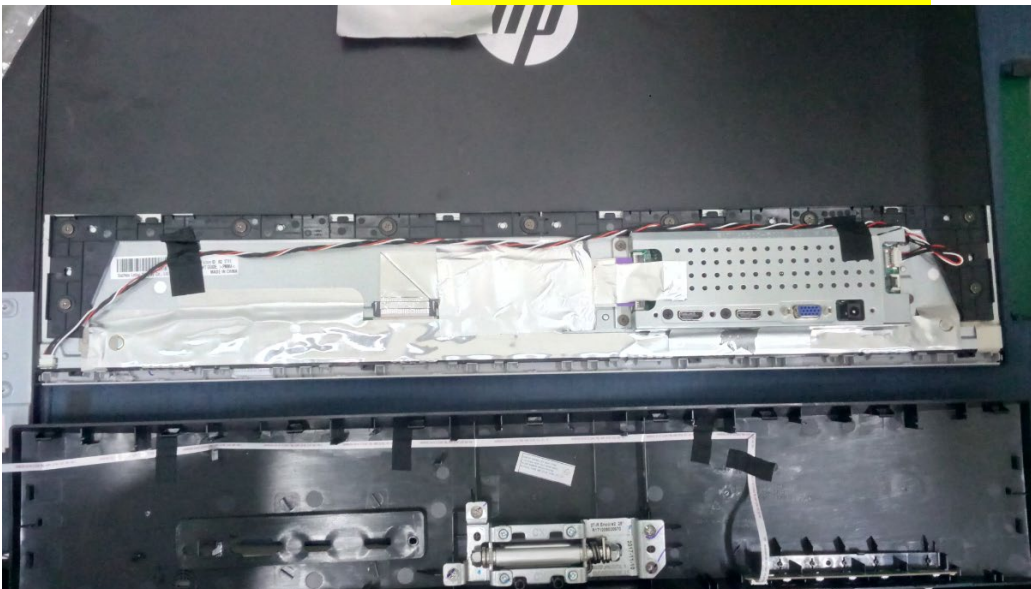


Strip the other screws *9pcs from the LCM;



Step 6: Release all materials and put some by ESD;
Can follow the picture as bellow;

The overall look after when finished



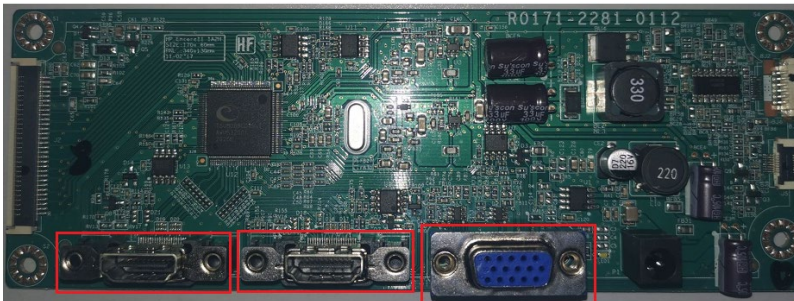
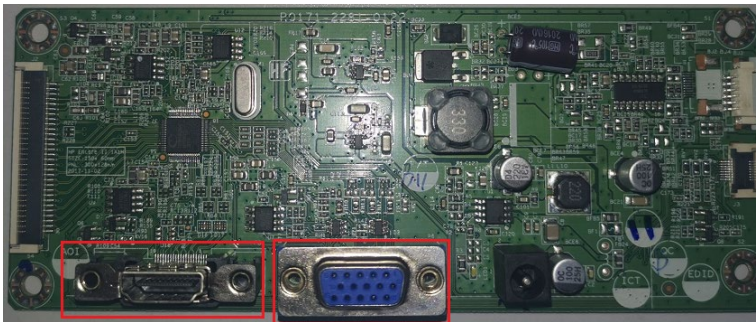
Connector repair

This procedure includes VGA, HDMI connectors.

The connectors are on the main board.

The connectors identifiers are as follows:

Connector	Location
VGA	P6
HDMI	P3 (P4)



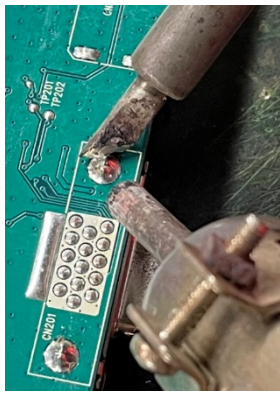
Before repairing connectors, follow these steps:

- ▲ Prepare the monitor for disassembly. See [Preparation for disassembly](#) on page 12.

VGA P6

Repair the VGA connector:

- 1) Use a hot air gun to melt the solder on the pins. Pin solder with soldering iron and absorber. You can gently push down with the soldering iron once everything is molten to move the CN201 out of the through holes.

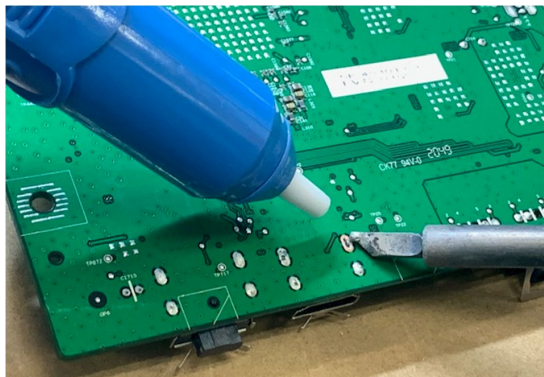


- 2) Lift the P6 connector from the PCB.
- 3) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 4) Solder the new component.

HDMI connector P3 (P4)

Repair the HDMI connector:

- 1) Use a soldering iron and a desoldering pump to remove as much solder as possible from the pin.



- 2) Use a hot air gun to melt the solder on the pins.



- 3) Lift the J2 connector from the PCB.
- 4) Place the new component on the PCB. Be sure that it matches the PCB footprint.
- 5) Solder the new component.

Function test

After repair, be sure to confirm that all functions are working.

Table 4-1: Function test

Test item	Operating description	Tool used
VGA test	Confirm whether image displays and sound plays correctly on the monitor.	Computer or DVD player
HDMI test	Confirm whether image displays and sound plays correctly on the monitor.	Computer or DVD player
DP test	Confirm whether image displays and sound plays correctly on the monitor.	Computer or DVD player
Audio test	Change volume and balance to confirm whether volume is smooth and loud enough.	Speaker

Support and troubleshooting

The following table lists possible problems, the possible cause or each problem, and the recommended solutions.

Table 4-2: Solving common problems

Problem	Possible cause	Solution
Screen is blank or video is flashing.	Power cord is disconnected.	Connect the power cord.
	Monitor is off.	Power the power button. NOTE: If pressing the Power button has no effect, press and hold the power button for 10 seconds to disable the Power button lockout feature.
	Video cable is improperly connected.	Connect the video cable properly.
	System is in Sleep mode.	Press any key on the keyboard or move the mouse to exit Sleep mode.
	Video card is incompatible.	Open the OSD menu and select the Input Control menu. Set Auto-Switch Input to Off and manually select the input
Image appears blurred, indistinct, or too dark.	Brightness is too low.	Open the OSD menu and select Brightness to adjust the brightness scale as needed.
Check Video Cable is displayed on screen.	Monitor video cable is disconnected.	Connect the appropriate video signal cable between the computer and monitor. Be sure that the computer power is off while you connect the video cable.
Input Signal Out of Range is displayed on screen.	Video resolution and/or refresh rate are set higher than what the monitor supports.	Change the settings to a supported setting.
The monitor is off, but it did not seem to enter into Sleep mode.	The monitor's power saving control is disabled.	Open the OSD menu and select Power Control > Auto-Sleep Mode and set auto-sleep to On .
On-Screen Menus are Locked is displayed.	The monitor's OSD lock function is enabled.	Press and hold the Menu button on the front bezel to 10 seconds to disable the

		OSD lockout function.
No low-power sleep mode	The monitor's power button is locked.	Press and hold the power button for 10 seconds to disable the power button lock function.

Index

- components
 - front, 4
 - rear, 5
- connector repair, 15
- features, 3
- firmware updates, 2
- front components, 4
- function button locations, 4
- function test, 17
- HDMI connector location, 5, 6
- how to order parts, 10
- illustrated parts catalog, 8
- menu button location, 4
- parts, 8
- parts, ordering, 10
- power button location, 5
- power connector location, 5, 6
- power light location, 4
- precautions, 1
- preparation for disassembly, 11
- RC removal, 11
- rear components, 5
- removal
 - RC, 11
- removal and replacement procedures, 11
- returning to customer, 2
- RoHS (2002/95/EC) requirements, 2
- safety information, 1
- serial number location, 6
- service information, 1
- spare parts, 8
- support and troubleshooting, 18
- troubleshooting, 18
- USB port location, 5, 6
- VGA connector location, 5, 6